INDEX TO AUTHORS
1990

Abdrahmanov, D. N., 499
Adach, J., 547
Adam, A., 647
Adam, E. J., 502
Adams, H., 905
Adams, P. J. V., 875
Aguilera Grijalvo, C., 76
Aitklova, Z. K., 499
Akine, Y., 735
Akyol, F. H., 661
Al-Ansari, A. G., 357, 706
Alcock, C. J., 315
Al-Hindawi, M., 357
Al-Jehazi, B., 547
Allison, D., 647
Amland, P. F., 787
Andre, P., 59
Annis, J. A. D., 512
Arlett, C. F., 624
Arnold, M. T., 720
Arthur, J. E., 845
Ataham, I. L., 661
Aukett, R. J., 910

Baddeley, H., 251
Bagshawe, K. D., 942
Baijal, V. N., 227
Baird, R. N., 19
Baldock, C., 720
Baldwin, J., 535
Ball, A. B. S., 346
Balmukhanov, S. B., 499
Bambang Oetomo, S., 22
Barber, R. W., 798
Barnes, D. W. H., 760, 875
Baron, J. H., 209
Barrett, A., 114
Barrett, J. H., 125
Bartram, C., 316
Bassiony, H., 706
Bates, T. D., 169
Bazzocchi, M., 680
Beard, R. W., 710
Beckham, W. A., 298
Beentjes, L. B., 691
Begent, R. H. J., 942
Beisebaev, A. A., 499
Bell, T. K., 584
Benjamin, I. S., 647
Bentzen, S. M., 82
Berchtold, C., 800
Beutter, P., 340
Bieri, A., 468
Bingham, R. M., 794
Birchall, I. W. J., 337
Biro, C., 730
Bjarnason, I., 186
Blake, S. W., 476
Blamey, R. W., 845
Blamire, A. M., 430, 833
Blane, C., 333
Blease, S. C. P., 263
Bleehen, N. M., 169
Bonnett, D. E., 476
Boothroyd, A. E., 331
Boultbee, J. E., 942
Bradley, C., 897
Bradley, M. J., 816
Bradley, S. A., 926
Brady, A. P., 978
Brannigan, P. D., 584
Bridges, B. A., 624
Brindle, J. M., 169
Broderick, M. J., 311
Brookes, G. B., 724
Brooks, A. P., 842
Browning, J., 673
Brownless, S. M., 190
Brunton, F. J., 646
Buckland-Wright, J. C., 609, 823
Bullimore, J. A., 169
Bundey, S., 971
Burrows, E. H., 229
Burry, B., 885
Busch II, M., 562
Butterworth, R., 905

Calais, G., 340
Canney, P. A., 620
Caputo, M. G., 578
Carswell, F., 138
Carter, E. C., 700
Carty, H., 737
Casas, L., 140
Casebow, M. P., 482
Cassell, K. J., 488
Cassoni, A., 346
Cawood, J. I., 190
Chambers, S. E., 246
Chan, F. L., 202
Chantler, C., 609
Chapman, B., 833
Chapman, S., 971
Chapple, C.-L., 635, 801
Chapple, C. R., 331
Charig, M. J., 304
Charnley, R. M., 430
Cherian, S., 532
Cherryman, G., 712
Cheung, Y. K., 202
Chilholm, R., 535
Choi, P. H. K., 108
Choy, D., 51, 108, 202
Christmas, T. J., 331
Chua, A., 698
Clabby, C., 698
Clark, J., 640
Clark, P., 983
Clements, D., 221
Clifton, A. G., 724, 805
Clubb, B. S., 642
Cobby, M., 673
Cole, P. R., 907
Collins, M. C., 367
Collins, D., 547
Colquhoun, I. R., 69
Compston, J., 609
Constant, O., 14
Conway, B. J., 33
Cooper, R. A., 302
Cooper, S. G., 804
Corne, J. M., 147
Corp, M., 760
Coulden, R. A., 889
Coupland, R. E., 833
Coxon, R., 430, 833
Cremin, B. J., 316
Cressa, C., 680
Crues, J. V., 317
Cullum, I. D., 266

Dale, R. G., 290
Dalla Palma, L., 680
Davies, A. M., 899, 926, 934
Davies, M. C., 501
Davies, S. G., 850
Davison, M., 983
Davy, T. J., 125
Dawson, P., 97
Day, M. J., 278
de Lacey, G., 14, 19, 186
Deacon, A. D., 776
Deacon, C. S., 968
Dean, D. M., 893
Dean, S., 620
Delacroix, S., 642
Delchambre, F., 181
Delcour, C., 76
Denham, J. W., 804
Dennis, J. A., 317
Derelle, J., 813
Dev, V., 517
Dicks-Mireaux, C., 568, 605
Dillehay, L. E., 862
Dische, S., 554
Dixon, A. K., 569
Dixon, P. J., 331
Dixon-Brown, A., 125
Donoghue, V., 444
Doughty, D., 745
du Peloux Menage, H. G., 224
Du Brow, R. A., 257
Dühmke, E., 562
Duncan, A. W., 138
Duncan, W., 583
Dunn, M. J., 910
Dyet, J. F., 700
Dynes, A., 190

Early, M. Y., 910
Egawa, S., 735
El Nahas, A. E., 664
El Sayed, A. A., 664
Ell, P. J., 266
Ellis, I. O., 845
Elston, C. W., 845
Ennis, J. T., 978
Estelin, R., 557
Etherington, R. J., 221
Ettles, D. F., 222

Faoagali, J., 532
Farman, P., 889
Fataar, S., 706
Faulkner, K., 635, 801
Featherstone, T., 82
Feola, J. M., 270
Finch, J., 476
Finlay, D. B. L., 940
Finn, J. P., 568, 794
Fisher, C., 360
Fitzgerald, P., 444
Fitzgerald, E. J., 698
Fletcher, E. W. L., 919
Fletcher, G. H., 315
Fletcher, R. F., 971
Floersheim, G. L., 468
Flores, A. D., 583
Flower, M. A., 325
Flowers, C., 845
Forrest, P., 150
Forsberg, L., 26
Forslin, M., 97
Foulner, D., 219
Fowler, J., 934
Fowler, J. F., 125, 169, 315
Frazer, C. K., 726
Freemont, A. J., 907
Fritz-Niggli, H.,286

INDEX TO VOLUME 63

Fry, R., 710
Fukuya, T., 975

Gamble, J. M., 488
Garand, G., 340
Garvey, C., 573
Garvie, N. W., 850
Gerard-Martin, S., 488
Gerbaulet, A., 557
Gevenois, P. A., 101
Gibberd, F. B., 537
Gibbon, W. W., 574
Gibbs, P., 430
Gibbs, P., 833
Gibson, J. M., 568
Gifford, D., 214
Gill, S. S., 745
Given-Wilson, R. M., 147
Glaholm, J., 120, 547
Gleeson, F., 535
Goddard, P., 138, 673
Godden, T. J., 214
Golding, S. J., 137, 304
Golfieri, R., 251, 712
Goodman, D., 125
Gordon, I., 438, 507
Gordon, T. J., 871
Gormon, W., 444
Gosden, C. M., 783
Grammatopoulos, A., 922
Grech, P., 650
Grier, D., 602
Grieve, D. K., 308
Grimer, R. J., 899
Gross, M. P. L., 897
Guibelalde, E., 564
Guichard, M., 557
Gumpel, M. J., 186
Gupta, B. D., 648
Gupta, N. K., 871
Gusella, P., 76
Gwyther, S. J., 819

Haddad, N. G., 246
Hafermann, M. D., 59
Haie, C., 557
Hall, C. M., 652
Hall, E. J., 150
Hall, M. L., 266
Hallam, L. A., 809
Hall-Craggs, M. A., 568, 794
Hamblen, D. L., 776
Hamilton, A., 138
Hanbury, D. C., 889
Handl-Zeller, L., 206
Hannan, W. J., 149
Hansell, D. M., 537
Hardcastle, J. D., 430
Harmer, C. L., 325, 360
Harrison, R. M., 635
Hart, G., 819
Hartley, W. C., 700
Hartnell, G., 602
Hay, J. H., 583
Hayashi, K., 891
Haybittle, J. L., 169, 315
Haycock, G. B., 609
Haylor, J., 664
Heavens, J., 266
Hedberg-Vikström, B. R. K., 33
Hederström, E., 26
Hedtler, W., 800
Helms, C. A., 461
Hendry, J. H., 79, 871
Hendry, M. A., 809
Herbetko, J., 855
Hesp, R., 149
Hind, A., 547
Hinney, A., 624
Hinz, J. M., 349
Hirn-Stadler, B., 951
Hodgson, S. V., 72
Hoeffel, J. C., 813
Hohenberg, G., 206
Hopewell, J. W., 41, 315, 760, 875
Hornsby, V. P. L., 663, 733
Horrocks, M., 19
Hosie, C. J., 776
Hounsell, A. R., 629
Howard, N., 169
Huddart, R., 569
Hughes, A. O., 19
Hughes, D., 137
Hughes, J. D., 190
Hughes, J. S., 963
Hughes, P. L., 448
Hughes, T., 723
Hyde, I., 855

Imai, S., 975
Imrie, P. R., 542
Irifune, H., 891
Irvine, A. T., 325
Isomoto, I., 891
Ito, M., 891

Jackson, J., 229, 647
Jaffe, V., 615
Jäger, H. R., 143
Jasani, M. K., 907
Jeans, W. D., 19, 161
Jimenez, J. A., 140
Johnson, I. R., 833
Johnson, M. S., 302
Johnson, R. J., 492
Jones, A., 673
Jones, D., 59
Jones, R. A., 65
Joseph, A. E. A., 502, 922
Joshi, K., 648

Kajihara, Y., 975
Kamel, H., 357
Kapoor, R., 654, 805
Karani, S., 197
Karp, S. J., 132
Kaul, U., 517
Kear, D., 214
Keeling, P. W. N., 698
Kendall, G. M., 963
Kenny, J. B., 448
Kenny, M. B., 883
King, D. M., 490
King, K., 897
Kingston, J. E., 624
Kinsella, K., 138
Kirkpatrick, A. E., 128
Klosok, J., 501
Knowles, S., 132
Kobikova, D. H., 499
Komaki, K., 975
Kotre, C. J., 858

Laing, A. H., 169
Laker, M. F., 858
Lamb, G. H. R., 134
Lambert, G. D., 278
Lamminen, A. E., 591, 946
Lartigau, E., 557
Lavender, J. P., 501
Law, J.,128, 966
Lawson, R. C., 125
Lawton, P. A., 132
Le Floch, O., 340
Leach, M. O., 120
Leach, M. O., 547
Leatherbarrow, B., 728
Leitz, W. K., 33
Leonard, J. V., 605
Leslie, M. D., 661
Lespinasse, F., 557
Leung, S. F., 716
Levi, S., 186
Lewis-Jones, H. G., 134, 573
Li, S. K., 209
Lindsell, D. R. M., 304, 369
Lindup, R., 169
Lisle, D., 532
Llewelyn, J. G., 897
Llorca, A. L., 564
Lloyd, D. C., 31
Locks, S. M., 278
Long, M. G., 942
Lorigan, J. G., 257, 456
Loveday, E. J., 224
Loverock, P., 542
Lyttkens, K., 26

MacDonald, A. F., 150
Macdonald, J., 661
Macvicar, D., 605
Madden, A., 120
Madden, F. J. F., 910
Mak, R. H. K., 609
Malaise, E. P., 557
Man, W. K., 209
Manns, R. A., 934
Mansfield, P., 430, 833
Marchal, A. L., 813
Marino, C., 951
Martijn, A., 22
Martin, D., 230
Martinez, M., 140
Marugg, S., 800
Maruyama, Y., 270, 661
Maskell, T. W., 940
Mastorakou, I., 369
Maxwell, J. D., 922
McAteer, E. J., 809
McCabe, M., 14, 19
McCarthy, P., 97, 647
McCarty, M., 659
McCormack, M., 752
McCready, V. R., 325, 547
McGurk, F., 169
McHugh, K., 646
McKim-Thomas, H., 303
McNally, E., 14
McParland, B. J., 295, 885
Meanock, C. I., 922
Mechkov, G., 523
Meirion Thomas, J., 346
Metcalfe, M. J., 65
Metreweli, C., 816
Michalowski, A. S., 209
Micheau, C., 557
Miles, K. A., 798
Millar, R. M., 883
Miller, J., 581
Mills, P., 50
Milner, S. M., 263
Mollan, R. A. B., 145
Molteni, A., 349
Moore, N. R., 569
Morcos, S. K., 664

Morgan, A. M., 911
Morris, E., 934
Morris, G. A., 907
Morrison, D., 77
Moskovic, E., 656
Muir, B. B., 246
Munk, P. L., 461
Munro, A. J., 583
Murphy, P., 19
Murray, J. B., 894
Mustaphin, D. S., 499

Naritomi, G., 364
Nash, A. F., 902
Nedelkov, G., 523
Newling, D. W., 726
Ngan, H., 771
Nias, A. H. W., 149, 752
Nicholson, D. A., 814
Nicolaides, K. H., 783
Nishishita, S., 975
Nixon, J., 337
Nordshus, T., 787
Nosil, J., 885

O'Connell, M. E. A., 360
O'Donnell, C., 97, 143
Okadome, K., 364
O'Keeffe, F., 456
Olliff, S., 197
Olliff, J. F. C., 819
Ordidge, R. J., 430, 833
Ormerod, M. G., 542
Ormsby, P. L., 125
Ott, R. J., 325
Owen, J. P., 858

Padley, S., 72, 535
Page, J. E., 490, 597
Palmer, M. K., 82
Patel, P., 661
Paul, A. B., 893
Peters, A. M., 411, 501
Petkov, D., 523
Phelps, P. D., 512, 724
Phillips, D. L., 169
Pierre, E., 813
Pihko, H., 591
Pilbrow, W. J., 190
Plane, J. H., 882
Plant, G. R., 537
Plowman, P. N., 624
Polley, T. Z., 333
Pooley, J., 574
Powell, D., 270
Powell, T., 576
Prade, M.,557
Prendergast, C. M., 490
Preston, B. J., 303
Price, A. B., 186
Pringle, J. S., 251
Puri, S., 227
Pye, D. W., 149

Rae, T., 710
Rajani, M., 517
Raju, M. R., 735
Ramakantan, R., 363
Ramji, S., 654
Rampton, J., 910
Rao, K. R., 286
Ratcliffe, J. F., 532
Rawlinson, J., 69
Reale, F., 578
Redpath, T. W., 65
Reed, D. H., 902
Rees, M. R., 222
Renwick, I. G. H., 495
Reuter, K. L., 578
Revesz, L., 499
Reynaud-Bougnoux, A., 340
Reznek, R. H., 842
Rezvani, M., 41, 169, 316, 875, 958
Rhys Davies, E., 501
Richard, J. M., 557
Richardson, R. B., 235
Richoz, B., 76
Rickards, D., 331
Rimmer, S., 968
Ritchie, D. A., 726
Rizk, B., 501
Robbins, M. E. C., 760, 875
Roberts, P., 899
Robinson, P. J., 512
Roebuck, E., 845
Rogers, V., 710
Rojas, A., 951
Ross, W. M., 313
Rossiter, M. J., 230, 663
Rowan, D. M., 581
Rowlands, P. C., 650
Rudge, P., 805
Rudwan, M. A., 706
Rueter, F. G., 33
Rugg, T., 554
Russell, J. M., 492
Russell, S. A., 492
Ryan, S., 698
Rymel, J., 642

Salmon, I., 101
Salvador, R., 140
Salvador, M., 140
Sandin, B., 615
Sansom, J. M., 760, 875
Satyanath, S., 706
Saunders, J. E., 125
Saunders, M. I., 554
Saunders, R. D., 317
Saverymuttu, S. H., 922
Schaefer, D. J., 317
Scott, O. C. A., 82, 499, 821
Scott, P. J., 222
Scott, R. R., 862
Seaby, A. W., 640
Sepponen, R. E., 591
Sethi, T., 648
Shah, P., 363
Sham, J. S. T., 51, 108, 202
Sharma, B. K., 653
Sharma, H. L., 325
Sharma, S., 227, 517
Sharma, S. C., 648
Sharp, J. C., 547
Shaw, P., 438
Shellock, F. G., 317
Shepherd, J. K., 794
Sherwood, T., 72
Shirato, H., 871
Shiu, W., 716
Shono, T., 364
Showalter, C. K., 33
Shrivastava, S., 517
Sidey, M. C., 537
Sinha, J., 143
Skaane, P., 787
Smart, P. J., 968
Smith, A. G., 325
Smith, D. A. S., 776
Smith, E., 752
Smith, F. W., 65
Smith, P. J., 642
Solheim, K., 787
Soni, C. R., 357
Souhami, R., 251
Speechly-Dick, M. E., 650
Spencer, J., 209
Spencer, J. A., 308, 369, 919
Spencer, P. A. S., 306
Spinks, C., 14
Spittle, M. F., 132
Spring, M. W., 609, 823
Stallenberg, B., 101
Stalley, P., 730
Starkie, C. M., 899
Stehling, M. K., 430, 833
Steinberg, J. D. J., 22
Stevens, G. N., 730
Stevens, J. M., 805
Stockdale, H. R., 190
Stones, R. W., 710
Streule, K., 800
Struyven, J., 76, 101
Stuttle, A., 501
Suarez, R., 77
Suarez, V., 77
Suita, S., 364
Suramo, I. J. I., 591
Suri, M., 654
Sutherland, G. R., 89
Suvana, S. K., 132
Symonds, E. M., 833

Talwar, K., 517
Tanttu, J. I., 591
Tattersall, M. H. N., 730
Tayar, R., 82
Taylor, A. D., 726
Taylor, P. M., 31
ter Haar, G., 542
Thames, H. D., 79, 82
Thiruparam, S., 654
Thomas, S., 197
Thomas, S. J., 355
Thompson, W. D., 858
Thomson, E. S., 745
Thorpe-Beeston, J. G., 783
Timmermans, C. W. M., 691
Todorov, T., 523
Tokita, N., 735
Tommasini, G., 680
Tonchev, Z., 523
Tonge, K. A., 224
Tran, T. L., 659
Travis, R. C., 581
Trewhalla, M., 97
Trigaux, J. P., 181, 497
Ts'ao, C., 349
Tsao, S. Y., 716
Tuck, J., 230
Tuohy, J. B., 911
Turner, C., 609

Uetani, M., 891
Uma Devi, P., 81
Usher, C., 882

Valabhiji, P., 902
Valentine, A. R., 897
van Beers, B., 181, 497
van Nagell, J. R., 270
van Regemorter, G., 101
van Sinoy, M. L., 101
Vañó, E., 564
Vedi, S., 609

Virjee, J., 337
Vutova, K., 523

Wallace, S., 456
Walters, H., 197
Walton, S., 65
Ward, R. G., 573
Ward, S. C., 733
Ward, W. F., 349
Washington, J. T., 59
Watkins, R. M., 346
Watson, P., 145
Webb, J. A. W., 842
Weeger, P., 557
Welch, T., 14
Wellings, R. M., 934
Weynants, P., 497
Wheldon, T. E., 114
Whipp, E., 673
Whitaker, S. C., 303
White, H., 547
White, M. V., 640
White, S. J., 333
Whitear, P., 438
Whitehouse, G. H., 357, 448
Whitehouse, R. W., 728
Whyte, A. M., 311
Wiernik, G., 125, 169, 315, 760
Wierzbicki, J., 270
Wight, D. G. D., 605
Wilkins, R., 615
Wilkinson, J. M., 629
Williams, C. E., 134
Williams, D. S., 661
Williams, G. J., 222
Williams, J. W., 367, 576
Williams, M. V., 569
Williams, P. C., 125
Wilson, A. G., 597
Wilson, N. V., 147
Wong-You-Cheong, J., 981
Wood, B., 907
Worthington, B. S., 833

Yoneda, J., 270
Young, C. M. A., 760
Young, I. R., 1
Young, W., 333
Younger, K. A., 652

Ziervogel, M., 894

SUBJECT INDEX
1990

List of sections:

Radiodiagnosis
- Bones and joints (excluding skull)
- Neuroradiology (including skull)
- Cardiovascular system
- Respiratory tract
- Digestive tract
- Liver and biliary tract, spleen, pancreas
- Urinary tract
- Haemopoietic, lymphatic, reticulo-endothelial systems
- Reproductive system
- Endocrine system
- Ear, nose, throat, mouth, eyes
- Breast and soft tissues
- Paediatrics
- Contrast media and other drugs
- Apparatus and technical aspects
- Organization, statistics and economics
- Computed tomography (head)
- Computed tomography (whole body)
- Computed tomography (apparatus and technical aspects)
- Interventional radiology

Ultrasound
- Clinical aspects
- Apparatus and technical aspects

Nuclear medicine
- Clinical aspects
- Apparatus and technical aspects

Nuclear magnetic resonance

Physics
- Applied to radiodiagnosis
- Applied to radiotherapy

Radiotherapy
- Results and clinical aspects
- Apparatus and technical aspects

Cancer chemotherapy

Radiobiology
- Applied to radiotherapy
- Effects of radiation quality
- Fractionation studies
- Sensitizers and protectors
- Other studies

Hazards and radiation protection

Lectures and addresses

Education

Proceedings

Obituaries

Awards

Book reviews

Instructions to authors

RADIODIAGNOSIS

Bones and joints
(excluding skull)

The radiology of Coffin–Lowry Syndrome (Case report), 72

Atlanto-axial rotary fixation (Correspondence), 82

Cineradiography of a cracking joint (Short communication), 145

The role of STIR sequence in magnetic resonance imaging examination of bone tumours, 251

The range of bone density in normal British women, 266

Spontaneous diasappearance of tuberculous psoas abscess calcification (Case report), 303

Osteosarcoma: an unusual thoracic metastasis (Case report), 304

Congenital indifference to pain mistaken for non-accidental injury (Case report), 308

Tuberculosis of the patella (Case report), 363

Pseudopermeative skeletal lesions, 461

The type III dens fracture andits associated soft-tissue injuries: a different form of Hangman's fracture (Case report), 494

Assessment of a single lumbar spine radiograph in low back pain, 535

Skeletal abnormalities in Refsum's disease (heredopathia atactica polyneuritiformis), 537

Pathological fracture of the femoral shaft in a case of Servelle–Martorell syndrome (phleboeclatic ostehypoplastic angiodysplasia with associated anterio-venous malformation) (Case report), 574

Epidural abscess of the cervical spine: case report and literature review (Case report), 576

Quantitative microfocal radiography of children with renal osteodystrophy; comparison with laboratory and histological findings, 609

Thin ribs, thin tubular bones, abnormal facies and intrauterine growth retardation: a lethal syndrome (Case report), 654

Quantitative gamma-ray computed tomography of the radius in normal subjects and osteoporotic patients, 776

Ultrasonic appearances of the early changes in fibrodysplasia ossificans progressiva (Case report), 809

Cystic lymphangioma of the pelvis in childhood (Case report), 813

Contrast medium imbibition in osteoarthritic cartilage (Short communication), 823

Skeletal abnormalies in a case of congenital erythropoietic porphyria (Case report), 891

The value of computed tomography in the diagnosis of atlanto-axial rotatory fixation (Case report), 894

The nidus of an osteoid osteoma mimicking an os supratrochleare dorsale (Case report), 899

High resolution, high field magnetic resonance imaging of joints: unexpected features in proton images of cartilage (Short communication), 907

Computed tomographic assessment of old calcaneal fracture, 926

Real-time digital contrast enhancement and magnification in the assessment of scaphoid and other wrist injuries, 934

The prognostic significance of radiologically detected knee joint effusions in the absence of associated fracture, 940

Severe dwarfism with cataracts. A new osteo-chondrodysplasia (Case report), 971

Neuroradiology
(including skull)

Testing a policy for skull radiography (and admission) following mild head injury, 14

Testing a policy for skull radiography (and admission) following mild head injury (Correspondence), 663

Aneurysms involving the intrapetrous internal carotid artery: a rare cause of Horner's syndrome (Case report), 69

INDEX TO VOLUME 63

A real headache! (Correspondence), 229
Comparison of spin echo T_1-weighted and FLASH 90 gadolinium-enhanced magnetic resonance imaging in the detection of cerebral metastases, 712
Cholesterol granuloma of the petrous apex (Case report), 724 A cranio-cerebral erosion (growing skull fracture) causing anisometropia (Case report), 728
Choroid plexus cysts and chromosomal defects, 783
Spinal cord sarcoidosis with intramedullary cyst formation (Case report), 805
Multifocal central nervous system lesions and retropharyngeal lymphadenopathy on magnetic resonance imaging: an association that suggested progressive multifocal leukoencephalopathy in a patient with acute aphasia (Case report), 897

Cardiovascular system

Randomized trial of laser-assisted passage through occluded femoro-popliteal arteries, 19
Unusual appearances of an adrenal mass on computed tomography (Case report), 137
The development, application and use of digital subtraction angiography (Review article), 161
Anatomical variations of the carotid bifurcation: implications for digital subtraction angiography and ultrasonography, 181 The use of combined transoesophageal echocardiography and fluroscopy in the biopsy of right atrial mass (Case report), 222
Retroperitoneal haematoma following orchidectomy: implications for staging computed tomography (Case report), 490
Pelvic haematoma following orchidectomy: a pitfall in the staging of non-seminomatous germ cell tumour (Case report), 492
^{111}In labelling of post-operative thrombus (Correspondence), 501
Initial experience with percutaneous transluminal angioplasty in the management of Takayasu's arteritis, 517
Percutaneous femoral artery puncture: practice and anatomy, 602
Comparison of iopromide and iopamidol in left ventricular angiography and in coronary angiography, 700
Deterioration following delay in performing femoral angioplasty, 919

Respiratory tract

Asymmetric pulmonary changes in premature infants with surgical closure of a persistent ductus arteriosus, 22
Calcification of the intrathoracic trachea demonstrated by computed tomography, 31
Assessment and comparison of chest radiography techniques in the United States and in Sweden, 33
Bilateral pneumothorax as a presenting feature of metastatic angiosarcoma of the scalp (Case report), 132
Giant mid-oesophageal diverticulum: a rare cause of dysphagia (Case report), 221
The computed tomographic appearances and clinical significance of intussusception in adults with malignant neoplasms, 257
Pneumonia, diagnosed on the abdominal radiograph, as a cause for acute abdomen in children (Case report), 306
Bronchopulmonary dysplasia: a radiographic and clinical review of 20 patients, 444
Linear opacities as a feature of pneumocystis pneumonia, 597
Invisible pulmonary markings due to air in the pulmonary vasculature: a post-mortem study (Case report), 646
The antenatal diagnosis of congenital cystic adenomatoid malformation of the lung (Case report), 968
The scintigraphic detection of ossific mediastinal and pulmonary metastases in osteosarcoma (Case report), 978

Digestive tract

'Diaphragm like' structures of the small bowel in patients treated with non-steroidal anti-inflammatory drugs, 186
Calcification of the large bowel in schistomiasis demonstrated by computed tomography (Case report), 357
Cytomegalovirus infection masquerading as colonic neoplasia (Case report), 572
Strongyloidiasis of the colon (Case report), 650
Ultrasound as part of a 1-day gastroenterology clinic: advantages and problems, 698
A new positioning technique for barium enemas (Technical note), 722
Ultrasonography in patients with suspected acute appendicitis: a prospective study, 787
Unusual presentation of non-Hodgkin's lymphoma of the small bowel (Case report), 814 Computed tomography in volvulus of the midgut (Case report), 893
Paraganglioma of the duodenum: a case report with radiological findings and literature review (Case report), 975

Liver and biliary tract, spleen, pancreas

Congenital biliary dilatation: a spectrum of disease detailed by ultrasound, 333
Hepatic imaging with computed tomography of chronic tyrosinaemia type 1, 605
Radiological definition of a new model of portal diversion in the rat, 615
Computed tomography of portal venous gas after hepatic artery embolization (Case report), 647
Epidermoid cyst of the spleen: a case report and review of the literature (Case report), 652
Macronodular hepatic tuberculosis in a child: computed tomographic appearances (Case report), 656
Radiologically visible gallbladder calcification due to schistosomiasis, 706
Lipiodol computerized tomography: how sensitive and specific is the technique in the diagnosis of hepatocellular carcinoma, 771
Radiological diagnosis and management of a solitary tuberculous hepatic abscess (Case report), 902
Gallbladder wall thickening (congestive cholecystopathy) in chronic liver disease: a sign of portal hypertension, 922

Urinary tract

The ultrasound cystodynamogram — a new radiological technique, 331
Can ultrasound replace the intravenous urogram? (Correspondence), 369
Ultrafast magnetic resonance scanning of the liver with echo-planar imaging, 430
Comparison of ^{99}Tc↑ dimercaptosuccinic acid scans and intravenous urography in children, 438
Urinary tract infection in paediatrics: the role of diagnostic imaging (Review article), 507
Intracardiac extension of Wilms' tumour: demonstration by magnetic resonance (Case report), 568
Radiological anatomy of the kidney revisited, 680

Ultrasonic detection of a retroperitoneal haematoma causing duodenal obstruction following ureterolithotomy (Case report), 726
Urinary tract dilatation in constipated children, 855
Ultrasound cystography: a valuable technique (Case report), 889

Haemopoietic, lymphatic, reticulo-endothelial systems

Ultrasound examination of lymph nodes in the hepato-duodenal ligament, 26
Ultrasound appearances of extrameduliary haematopoiesis in the liver and spleen (Case report), 816

Reproductive system

Magnetic resonance imaging of the normal prostate at 1.5 T, 101
Pelvic actinomycosis: beware the intrauterine contraceptive device (Case report), 134
Ultrasound evaluation of ectopic pregnancy including correlation with human chorionic gonadotrophin levels, 246
Does scrotal ultrasound reduce the need for orchidectomy in the clinically malignant testis?, 263
Malignant struma ovarii: presentation and management (Case report), 360
Retroperitoneal haematoma following orchidectomy: implications for staging computed tomography (Case report), 490
Pelvic haematoma following orchidectomy: a pitfall in the staging of non-seminomatous germ cell tumour (Case report), 492
Difficulties in the diagnosis of metastatic testicular teratoma (Case report), 569
Primary osteosarcoma of the uterus (Case report), 578
Magnetic resonance imaging, computed tomography and endosonography in the local staging of carcinoma of the cervix, 673
Pelvic congestion in women: evaluation with transvaginal ultrasound and observation of venous pharmacology, 710
Echo planar imaging of the human fetus *in utero* at 0.5 T, 833
Ultrasonic morphology of the uterus and ovaries after treatment of invasive mole and gestational choriocarcinoma, 942

Endocrine system

Thyroid imaging using positron emission tomography — a comparison with ultrasound imaging and conventional scintigraphy in thyrotoxicosis, 325

Ear, nose, throat, mouth, eyes

The role of dacryocystography in the mamagement of patients with epiphora, 337
Imaging for cochlear implants, 512

Breast and soft tissues

Galactocele of the breast: radiologic and ultrasonic findings (Case report), 140
Screening for breast cancer (Correspondence), 150
Mammographic depiction of Poland's syndrome (Case report), 302
Radiological features of extraskeletal Ewing sarcoma, 456
The relationship of 'high risk' mammographic patterns to histological risk factors for development of cancer in the human breast, 845
Magnetic resonance imaging of primary skeletal muscle diseases: patterns of distribution and severity of involvement, 946
Recent films and screens for mammography (Technical note), 966

Paediatrics

Asymmetric pulmonary changes in premature infants with surgical closure of a persistent ductus arteriosus, 22
The radiology of Coffin–Lowry Syndrome (Case report), 72
A sweet solution to a contrast problem (Technical note), 219
Pneumonia, diagnosed on the abdominal radiograph, as a cause for acute abdomen in children (Case report), 306
Congenital indifference to pain mistaken for non-accidental injury (Case report), 308
Sedation for CT examinations in children (Correspondence), 316
Congenital biliary dilatation: a spectrum of disease detailed by ultrasound, 333
Raynaud's disease in childhood with radiological features (Case report), 364 Comparison of ^{99}Tc† dimercaptosuccinic acid scans and intravenous urography in children, 438
Bronchopulmonary dysplasia: a radiographic and clinical review of 20 patients, 444
Urinary tract infection in paediatrics: the role of diagnostic imaging (Review article), 507
Intracardiac extension of Wilms' tumour: demonstration by magnetic resonance (Case report), 568
Quantitative microfocal radiography of children with renal osteodystrophy; comparison with laboratory and histological findings, 609
Thin ribs, thin tubular bones, abnormal facies and intrauterine growth retardation: a lethal syndrome (Case report), 654
Macronodular hepatic tuberculosis in a child: computed tomographic appearances (Case report), 656
Ultrasound of the normal thymus in the infant: a simple method of resolving a clinical dilemma (Short communication), 737
Choroid plexus cysts and chromosomal defects, 783
Sedation in children scanned with high-field magnetic resonance; the experience at The Hospital for Sick Children, Great Ormond Street, 794
Cystic lymphangioma of the pelvis in childhood (Case report), 813
Unusual presentation of non-Hodgkin's lymphoma of the small bowel (Case report), 814 Echo planar imaging of the human fetus *in utero* at 0.5 T, 833
Urinary tract dilatation in constipated children, 855
The antenatal diagnosis of congenital cystic adenomatoid malformation of the lung (Case report), 968
Severe dwarfism with cataracts. A new osteo-chondrodysplasia (Case report), 971

Contrast media and other drugs

Vasopressin release in response to intravenously injected contrast media, 97
'Diaphragm like' structures of the small bowel in patients treated with non-steroidal anti-inflammatory drugs, 186
A sweet solution to a contrast problem (Technical note), 219
Reactions to intravenous contrast media (Correspondence), 230
Bacterial contamination of contrast media stored after opening, 532
Vasopressin release in response to intravenously injected contrast media (Correspondence), 664
Comparison of iopromide and iopamidol in left ventricular angiography and in coronary angiography, 700
Contrast medium imbibition in osteoarthritic cartilage (Short communication), 823

INDEX TO VOLUME 63

Apparatus and technical aspects

Assessment and comparison of chest radiography techniques in the United States and in Sweden, 33
Further comparisons of films, screens and cassettes for mammography (Technical note), 128
The development, application and use of digital subtraction angiography (Review article), 161
The influence of tube type and operator experience on performance of small bowel enema (Correspondence), 316
Discovertebral destruction in ankylosing spondylitis: the role of computed tomography and magnetic resonance imaging, 448
A dedicated microcomputer for a superficial radiotherapy unit (Technical note), 488
Film cassette for quality assurance of dental X-ray tubes (Technical note), 720
Quantitative gamma-ray computed tomography of the radius in normal subjects and osteoporotic patients, 776
Sedation in children scanned with high-field magnetic resonance; the experience at The Hospital for Sick Children, Great Ormond Street, 794
A clinical application of iodine quantitation using digital fluorography, 858
Temporary enlargement of penumbra on linear accelerators (Correspondence), 911
Real-time digital contrast enhancement and magnification in the assessment of scaphoid and other wrist injuries, 934
Recent films and screens for mammography (Technical note), 966
High surface temperature of endovaginal probes (Correspondence) 983

Organization, statistics and economics

Testing a policy for skull radiography (and admission) following mild head injury, 14
Testing a policy for skull radiography (and admission) following mild head injury (Correspondence), 663
Calcification of the intrathoracic trachea demonstrated by computed tomography, 31
Computers in radiology departments (Review article), 89
Total abdominal and pelvic ultrasound: incidental findings and a comparison between outpatient and general practice referrals in 1000 cases (Correspondence), 501
Age and sex specific radiographic examination frequency in the Netherlands, 691

Computed tomography
(*head*)

The value of computed tomography in the diagnosis of atlanto-axial rotatory fixation (Case report), 894

Computed tomography
(*whole body*)

The computed tomographic appearances and clinical significance of intussusception in adults with malignant neoplasms, 257
Calcification of the large bowel in schistomiasis demonstrated by computed tomography (Case report), 357
Discovertebral destruction in ankylosing spondylitis: the role of computed tomography and magnetic resonance imaging, 448
Evaluation of response to chemotherapy of human cystic echinococcosis, 523
Hepatic imaging with computed tomography of chronic tyrosinaemia type 1, 605
Computed tomography of portal venous gas after hepatic artery embolization (Case report), 647
Lipiodol computerized tomography: how sensitive and specific is the technique in the diagnosis of hepatocellular carcinoma, 771
Computed tomography in volvulus of the midgut (Case report), 893
Computed tomographic assessment of old calcaneal fracture, 926

Computed tomography
(*apparatus and technical aspects*)

Further comparisons of films, screens and cassettes for mammography (Technical note), 128

Interventional radiology

Randomized trial of laser-assisted passage through occluded femoro-popliteal arteries, 19
Embolization hazard of laser hot-tip catheters and coated guide wires (Case report), 76
A critical appraisal of coagulation studies prior to transfemoral angiography (Short communication), 147
The development, application and use of digital subtraction angiography (Review article), 161
Superselective embolization using a co-axial catheter technique, 197
Iliopsoas abscess: and unusual complication of femoral artery catheterization (Case report), 224
Initial experience with percutaneous transluminal angioplasty in the management of Takayasu's arteritis, 517
Percutaneous femoral artery puncture: practice and anatomy, 602
Computed tomography of portal venous gas after hepatic artery embolization (Case report), 647
Deterioration following delay in performing femoral angioplasty, 919

ULTRASOUND
Clinical aspects

Ultrasound examination of lymph nodes in the hepato-duodenal ligament, 26
Anatomical variations of the carotid bifurcation: implications for digital subtraction angiography and ultrasonography, 181 The use of combined transoesophageal echocardiography and fluroscopy in the biopsy of right atrial mass (Case report), 222
Ultrasound evaluation of ectopic pregnancy including correlation with human chorionic gonadotrophin levels, 246
Does scrotal ultrasound reduce the need for orchidectomy in the clinically malignant testis?, 263
Thyroid imaging using positron emission tomography — a comparison with ultrasound imaging and conventional scintigraphy in thyrotoxicosis, 325
The ultrasound cystodynamogram — a new radiological technique, 331
Congenital biliary dilatation: a spectrum of disease detailed by ultrasound, 333
Can ultrasound replace the intravenous urogram? (Correspondence), 369
Evaluation of response to chemotherapy of human cystic echinococcosis, 523
Magnetic resonance imaging, computed tomography and endosonography in the local staging of carcinoma of the cervix, 673
Ultrasound as part of a 1-day gastroenterology clinic: advantages and problems, 698
Pelvic congestion in women: evaluation with transvaginal ultrasound and observation of venous pharmacology, 710
Ultrasonic detection of a retroperitoneal haematoma causing duodenal obstruction following ureterolithotomy (Case report), 726

Ultrasound of the normal thymus in the infant: a simple method of resolving a clinical dilemma (Short communication), 737
Choroid plexus cysts and chromosomal defects, 783
Ultrasonography in patients with suspected acute appendicitis: a prospective study, 787
Ultrasonic appearances of the early changes in fibrodysplasia ossificans progressiva (Case report), 809
Ultrasound appearances of extramedullary haematopoiesis in the liver and spleen (Case report), 816
Ultrasound cystography: a valuable technique (Case report), 889
Gallbladder wall thickening (congestive cholecystopathy) in chronic liver disease: a sign of protal hypertension, 922
Ultrasonic morphology of the uterus and ovaries after treatment of invasive mole and gestational choriocarcinoma, 942
The antenatal diagnosis of congenital cystic adenomatoid malformation of the lung (Case report), 968

Apparatus and technical aspects

Total abdominal and pelvic ultrasound: incidental findings and a comparison between outpatient and general practice referrals in 1000 cases (Correspondence), 501
Quality assurance of ultrasound test objects (Correspondence), 584
Ultrasound of the normal thymus in the infant: a simple method of resolving a clinical dilemma (Short communication), 737
High surface temperature of endovaginal probes (Correspondence) 983

NUCLEAR MEDICINE

Clinical aspects

Salivary gland scintigraphy — a suitable substitute for sialography?, 190
Thyroid imaging using positron emission tomography — a comparison with ultrasound imaging and conventional scintigraphy in thyrotoxicosis, 325
Recent advances and future projections in clinical radionuclide imaging (Review article), 411
Comparison of ^{99}Tc↑ dimercaptosuccinic acid scans and intravenous urography in children, 438
^{111}In labelling of post-operative thrombus (Correspondence), 501
The role of Indium-labelled leukocyte imaging in pyrexia of unknown origin, 850
Major contamination from an iodine-131 therapy patient (Correspondence), 910
The scintigraphic detection of ossific mediastinal and pulmonary metastases in osteosarcoma (Case report), 978

Apparatus and technical aspects

A man with three knees? False 'hot spot' with dual isotope imaging (Technical note), 798

NUCLEAR MAGNETIC RESONANCE

MR: boundless possibilities...or possible boundaries (Silvanus Thompson Lecture), 1
Low field cine magnetic resonance imaging (Technical note), 65
Magnetic resonance imaging of the normal prostate at 1.5 T, 101
An assessment of the sensitivity of *in vivo* ^{31}P NMR spectroscopy as a means of detecting pH heterogeneity in tumours: a simulation study, 120
Magnetic resonance imaging of the chest in infectious mononucleosis (Case report) 138
The role of STIR sequence in magnetic resonance imaging examination of bone tumours, 251
Alterations in body and skin temperatures caused by MRI (Correspondence), 317
Ultrafast magnetic resonance scanning of the liver with echo-planar imaging, 430
Discovertebral destruction in anky!osing spondylitis: the role of computed tomography and magnetic resonance imaging, 448
Intracardiac extension of Wilms' tumour: demonstration by magnetic resonance (Case report), 568
Magnetic resonance of diseased skeletal muscle: combined T^1 measurement and chemical shift imaging, 591
Magnetic resonance imaging, computed tomography and endosonography in the local staging of carcinoma of the cervix, 673
Comparison of spin echo T^1-weighted and FLASH 90 gadolinium-enhanced magnetic resonance imaging in the detection of cerebral metastases, 712
Sedation in children scanned with high-field magnetic resonance; the experience at The Hospital for Sick Children, Great Ormond Street, 794
Echo planar imaging of the human fetus *in utero* at 0.5 T, 833
Magnetic resonance imaging in idiopathic retroperitoneal fibrosis: measurement of T^1 relaxation time, 842
Multifocal central nervous system lesions and retropharyngeal lymphadenopathy on magnetic resonance imaging: an association that suggested progressive multifocal leukoencephalopathy in a patient with acute aphasia (Case report), 897
High resolution, high field magnetic resonance imaging of joints: unexpected features in proton images of cartilage (Short communication), 907
Magnetic resonance imaging of primary skeletal muscle diseases: patterns of distribution and severity of involvement, 946

PHYSICS

Applied to radiodiagnosis

Topical infusion of metronidazole in the radiotherapy of tumours of the uterine cervix: interim report on the 2 year survival (Short communication), 499
Quality assurance of viewing boxes: proposal for establishing minimum requirements and results from a Spanish quality control programme (Technical note), 564
An investigation into the performance of an automated quality assurance and dosimetry system in diagnostic radiology, 635
A flat-top patient support for radiotherapy application computed tomographic scanning (Technical note), 640
Computerized calculation of radiation dose to patients from radiography (Technical note), 801

Applied to radiotherapy

A method for the assessment of the output of irregularly shaped electron fields, 59
An assessment of the sensitivity of *in vivo* ^{31}P NMR spectroscopy as a means of detecting pH heterogeneity in tumours: a simulation study, 120
Dosimetric intercomparison in the BIR fractionation study of 3F/week *versus* 5F/week in radiotherapy of laryngo-pharynx cancer, 125
The effect of secondary electron spread on the penumbra in high energy photon beam therapy, 278
Peripheral doses of two linear accelerators employing universal wedge (Technical note), 295
Neutron and gamma ray measurements carried out around a Varian Clinac 2500 linear accelerator (Technical note), 298

INDEX TO VOLUME 63

A comparison of two methods of *in vivo* dosimetry for a high energy neutron beam, 476
A modified synchronous shielding technique in rotation therapy, 482
Cylindrical forms of isodoses in gynecological afterloading therapy: an atlas using the Buchler afterloading machine (Technical note), 562
Tissue standard ratios for irregularly shaped radiotherapy fields, 629
The effects of steel and titanium mandibular reconstruction plates on photon and electron beams (Technical note), 642
The traceability of brachytherapy sources supplied by Amersham International (Correspondence), 663
Additive filtering (Technical note), 800
A rapid method of production of irregular-shaped fields for use with patients receiving electron radiotherapy (Technical note), 882 Calibration of radiotherpay bemas using a PC-based dosimetry recording system (Technical note), 883

RADIOTHERAPY

Results and clinical aspects

Prognostic factors of nasopharyngeal carcinoma: a review of 759 patients, 51
Nasopharyngeal carcinoma: the significance of neck node involvement in relation to the pattern of distant failure, 108
Nasopharyngeal carcinoma: pattern of skeletal metastases, 202
Radiotherapy of Morbus Gorham–Stout — the biological value of less irradiation dose, 206
Clinical study of relative biological effectiveness for cervical carcinoma treated by ^{252}Cf neutrons and assessed by histological tumour eradication, 270
Final report of the general clinical results of the BIR fractionation study of 3F/wk *versus* 5F/wk in radiotherapy of carcinoma of the laryngo-pharynx, 169
Final Report of the BIR fractionation study (Correspondence), 315
Oropharynx carcinoma: irradiation alone *versus* induction chemotherapy plus irradiation — 5 year results, 340
Smoking and mucosal reactions to radiotherapy, 554
Dysphagia after fast neutron therapy to head and neck (Correspondence), 583
Radiation therapy in the management of giant lymph node hyperplasia (Case report), 648
A localized hypersensitivity reaction to co-trimoxazole in a previously irradiated field simulating a recall phenomenon (Correspondence), 661
Complete remission of metastatic squamous carcinoma after cisplatinum chemotherapy without sustained control, following primary tumour control by californium-252 brachytherapy (Correspondence), 661
Comparison of spin echo T^1-weighted and FLASH 90 gadolinium-enhanced magnetic resonance imaging in the detection of cerebral metastases, 712
Treatment outcome of spinal cord compression by nasopharyngeal carcinoma, 716
Leiomyosarcoma following therapeutic irradiation for ankylosing spondylitis (Case report), 730 Progressive systemic sclerosis (diffuse scleroderma) and radiotherapy (Case report), 804
Lack of late skin necrosis in man after high-dose irradiation using small field sizes: experiences of grid therapy, 871

Apparatus and technical aspects

Silicone implant to prevent visceral damage during adjuvant radiotherapy for retroperitoneal sarcoma, 346
The variation of wedge factors with field size on a linear accelerator (Technical note), 355
Intraluminal irradiation in oesophageal tumours using the high-dose-rate Microselectron (Correspondence), 583
Stereotactic multiple arc radiotherapy, 745
Temporary enlargement of penumbra on linear accelerators (Correspondence), 911

CANCER CHEMOTHERAPY

Oropharynx carcinoma: irradiation alone *versus* induction chemotherapy plus irradiation — 5 year results, 340
Evaluation of response to chemotherapy of human cystic echinococcosis, 523
The effect of ultrasound on the cytoxicity of adriamycin, 542
Comparison of 5-Fluorouracil pharmacokinetics following intraperitoneal and intravenous administration using *in vivo* ^{19}F magnetic resonance spectroscopy, 547
Treatment outcome of spinal cord compression by nasopharyngeal carcinoma, 716

RADIOBIOLOGY

Applied to radiotherapy

Radiobiological rationale for compensation for gaps in radiotherapy regimes by post-gap acceleration of fractionation, 114
An assessment of the sensitivity of *in vivo* ^{31}P NMR spectroscopy as a means of detecting pH heterogeneity in tumours: a simulation study, 120
Changes in relative biological effectiveness with depth of neutron beams (Correspondence), 150
The use of small fraction numbers in high dose-rate gynaecological afterloading: some radiobiological considerations, 290
The effect of Captopril on benign and malignant reactions in irradiated rat skin, 349
Glutathione and cysteine levels in human tumour biopsies, 557
Transforming growth factor beta: a promoter of late connective tissue injury following radiotherapy, 620
An instance of clinical radiation morbidity and cellular radiosensitivity, not associated with ataxia-telangiectasia, 624
Chronic anaemia, hyperbarcic oxygen and tumour radiosensitivity, 752
Mathematical models of repopulation and reoxygenation in radiotherapy (Short communication), 821
A model for hematopoietic death in man from irradiation of bone marrow during radioimmunotherapy, 862
The influence of a seventy-two hour gap on the acute response of mouse skin and oesophagus, 951

Effects of radiation quality

Clinical study of relative biological effectiveness for cervical carcinoma treated by ^{252}Cf neutrons and assessed by histological tumour eradication, 270
The relative biological effectiveness of fractionated doses of fast neutrons (42 MeV $_{d\rightarrow Be}$) for normal tissues in the pig II. Late effects on cutaneous and subcutaneous tissues, 760
The relative biological effectiveness of fractionated doses of fast neutrons (42 MeV $_{d\rightarrow Be}$) for normal tissues. III. Effects on lung function, 875

Fractionation studies

The response of the pig lung to fractionated doses of X rays, 41

Fractionation sensitivity and the oxygen effect (Short communication), 79

Isoeffective doses (Correspondence), 82

Radiobiological rationale for compensation for gaps in radiotherapy regimes by post-gap acceleration of fractionation, 114

Final report of the general clinical results of the BIR fractionation study of 3F/wk *versus* 5F/wk in radiotherapy of carcinoma of the laryngo-pharynx, 169

Final Report of the BIR fractionation study (Correspondence), 315

The relative biological effectiveness of fractionated doses of fast neutrons (42 MeV $_{d\rightarrow Be}$) for normal tissues in the pig II. Late effects on cutaneous and subcutaneous tissues, 760

The relative biological effectiveness of fractionated doses of fast neutrons (42 MeV $_{d\rightarrow Be}$) for normal tissues. III. Effects on lung function, 875

The influence of a seventy-two hour gap on the acute response of mouse skin and oesophagus, 951

Sensitizers and protectors

Fractionation sensitivity and the oxygen effect (Short communication), 79

Chemical protectors: their potential application against occupational radiation hazards (Correspondence), 81

Response of murine small intestine to combined treatment with fostriecin and X rays, 286

Further studies on selective radioprotection by organic zinc salts and synergism of aspartate with WR 2721, 468

Topical infusion of metronidazole in the radiotherapy of tumours of the uterine cervix: interim report on the 2 year survival (Short communication), 499

Glutathione and cysteine levels in human tumour biopsies, 557

Chronic anaemia, hyperbarcic oxygen and tumour radiosensitivity, 752

Mathematical models of repopulation and reoxygenation in radiotherapy (Short communication), 821

Other studies

Gastrointestinal histamine and histamine formation capacity after gastric irradiation in mice, 209

The effect of Captopril on benign and malignant reactions in irradiated rat skin, 349

The effect of ultrasound on the cytoxicity of adriamycin, 542

Transforming growth factor beta: a promoter of late connective tissue injury following radiotherapy, 620

An instance of clinical radiation morbidity and cellular radiosensitivity, not associated with ataxia-telangiectasia, 624

Biological dosimetry for iodine contrast medium: X-ray interactions by cell survival (Short communication), 735

Direct analysis of quantitative data from radiobiological studies on pig lung, 958

HAZARDS AND RADIATION PROTECTION

Testing a policy for skull radiography (and admission) following mild head injury, 14

Embolization hazard of laser hot-tip catheters and coated guide wires (Case report), 76

Effective dose equivalent in dual X-ray absorptiometry (Correspondence), 149

An analysis of personnel dose records which justifies the application of cost–benefit analysis techniques in the design of an afterloading facility and the use of controlled areas and systems of work within suite to control occupational exposure, 214

Conversion coefficients from fluence and air kerma to dose equivalent quantities (Correspondence), 230

Past and revised risk estimates for cancer induced by irradiation and their influence on dose limits (Review article), 235

The range of bone density in normal British women, 266

Neutron and gamma ray measurements carried out around a Varian Clinac 2500 linear accelerator (Technical note), 298

Medicolegal aspects of medical radiation exposure (Short communication), 313

An investigation into the performance of an automated quality assurance and dosimetry system in diagnostic radiology, 635

Leiomyosarcoma following therapeutic irradiation for ankylosing spondylitis (Case report), 730 Biological dosimetry for iodine contrast medium: X-ray interactions by cell survival (Short communication), 735

Computerized calculation of radiation dose to patients from radiography (Technical note), 801

The relationship of 'high risk' mammographic patterns to histological risk factors for development of cancer in the human breast, 845

A model for hematopoietic death in man from irradiation of bone marrow during radioimmunotherapy, 862

A survey of the radiation exposures received by the staff at two cardaic catheterization laboratories (Technical note), 885

Major contamination from an iodine-131 therapy patient (Correspondence), 910

Occupational exposure and the Central Index of Dose Information (Technical note), 963

LECTURES AND ADDRESSES

MR: boundless possibilities...or possible boundaries (Silvanus Thompson Lecture), 1

EDUCATION

A pain in the rear (Case of the month), 77

Digging for a diagnosis (Case of the month), 143

The case of the surplus clues (Case of the month), 227

A diaphragmatic nick (Case of the month), 311

A Chinese puzzle (Case of the month), 367

Hour-glass lipoma (Case of the month), 497

Just another case of varicose veins? (Case of the month), 581

The forgotton incident (Case of the month), 659

'The dormouse is asleep again' said the Hatter, and he poured a little hot tea upon his nose (*Lewis Carroll*) (Case of the month), 733

A case of post-operative paresis (Case of the month), 819

A case of colonic defection (Case of the month), 905

An unusual cause of abdominal pain (Case of the month), 981

PROCEEDINGS

Imaging in abdominal sepsis, 19 October 1989, 318

Vascular effects in tumour therapy, 10 November 1989, 320

What shall we do about osteoporosis? 22 November 1989, 370

Radiation protection: sense or nonsense? 13 December 1989, 373

INDEX TO VOLUME 63

Proceedings of the British Medical Ultrasound Society: 21st Annual Meeting, 5–7 December 1989, 377
Radiobiology proffered papers, 23 February 1990, 585
Quantification in imaging — what is it and what is its future? 21 February 1990, 665
Photodynamic therapy, 4 April 1990, 668
Imaging towards 2000: practical integration of new technologies, 21 March 1990, 826
The combination of chemotherapy and radiotherapy in clinical practice, 10 May 1990, 828
The repair of radiation damage: molecules to man, 11 May 1990, 912
Work in Progress from Radiology 90, 984
The combined meeting of the Welsh and Northern branches of the BIR, 9 June 1990, 993

OBITUARIES

Dr Ralph Phillips, B3
Prof. C. B. Allsopp, B10
Sir Edward Pochin, B24

AWARDS

BIR Awards, B23
BIR Awards and Honorary Members, B38

BOOK REVIEWS

Aird, E. *Basic Physics for Medical Imaging*, 85
Antes, G. and Eggemann, F. *Small Bowel Radiology. Introduction and Atlas*, 589
Babcock, D. S. *Neonatal and Pediatric Ultrasonography. Clinics in Diagnostic Ultrasound, No. 24*, 916
Baillie, T. A. and Jones, J. R. (Eds). *Synthesis and Applications of Isotopically Labelled Compounds 1988*, 742
Ball, J. and Price, T. (Eds). *Chesney's Radiographic Imaging, 5th edn*, 996
Baverstock, K. F. and Stather, J. W. *Low Dose Radiation: Biological Bases of Risk Assessment*, 739
Bentel, G. C., Nelson, C. E. and Noell, K. T. *Treatment Planning and Dose Calculation in Radiation Oncology, 4th edn*, 740
Berkowitz, R. and Cohen, C. J. (Eds). *Contemporary Issues in Obstetrics and Gynecology: Obstetric Ultrasonography*, 232
Beyer, D. and Modder, U. *Diagnostic Imaging of the Acute Abdomen: A Clinical and Radiologic Approach*, 918
Blank, N. *Chest Radiographic Analysis*, 743
Blaufox, M. D. (Ed.). *Evaluation of Renal Function and Disease with Radionuclides: the Upper Urinary Tract, 2nd edn*, 742
Brown, J. J. and Higgins, C. B. *Pocket Atlas of Cardiac and Thoracic MRI*, 234
Callaghan, C. O. *Paediatric Radiology. Self-assessment in Radiology and Imaging, No. 6*, 232
Chalmers, A. G., McKillop, J. H. and Robinson, P. J. A. *Imaging in Clinical Practice*, 155
Chisin, R. (Ed.). *MRI/CT and Pathology in Head and Neck Tumours*, 1000
Chiu, L., Stanford, W. and Yiu-Chiu, V. *Computed Tomographic Angiography of the Mediastinum*, 832
Conte, P. F., Ragni, N., Rosso, R. and Vermorken, J. B. (Eds). *Multimodal Treatment of Ovarian Cancer, EORTC Vol. 20*, 408
Cookson, J. B. and Finlay, D. B. L. *Essential Chest Radiology*, 86
Czervionke, L. F. and Haugton, V. M. *Pocket Atlas of Spinal MRI*, 743
Debruyne, F. M. J., Denis, L. and van der Meijden, A. P. M. (Eds). *BCG in Superficial Bladder Cancer. EORTC Genitourinary Group, Monograph 6. Progress in Clinical and Biological Research, Vol. 310*, 739
Dequeker, J., Geusens, P. and Wahner, H. W. (Eds). *Bone Mineral Measurements by Photon Absorptiometry: Methodological Problems*, 324
Dewbury, K. C., Cosgrove, D. O. and Meire, H. B. *Ultrasound Teaching Cases, Vol. 2*, 156
Dublin, A. *Outpatient Invasive Radiologic Procedures. Diagnostic and Therapeutic*, 741
Egan, R. L. *Breast Imaging: Diagnosis and Morphology of Breast Diseases*, 918
Eisenberg, R. L., Dennis, C. A. and May, C. R. *Radiographic Positioning*, 506
Evans, D. H., McDicken, W. N., Skidmore, R. and Wookcock, J. P. *Doppler Ultrasound: Physics, Instrumentation and Clinical Applications*, 159
Faberer, E. N. (Ed.). *Digital Subtraction Imaging in Infants and Children*, 916
Farkas, M. L. *Cross-sectional Anatomy for Computed Tomography*, 503
Ferrucci, J. T., Delius, M. and Burhenne, H. J. (Eds). *Biliary Lithotripsy*, 741
Fornage, B. D. *Ultrasound of the Prostate*, 232
Frier, M., Hardy, J. G., Hesselwood, S. R. and Lawrence, R. *Hospital Radiopharmacy Principles and Practice. IPSM Report No. 56*, 409
Galluzzi, S., Ruffato, C. and Forzini, L. *Computed Tomography of the Lung: an Approach Based on Signs*, 503
Gaylord, G. M., Davis, L. P. and Baker, S. R. *Diagnostic and Interventional Radiology: A Clinical Manual*, 917
Gerhardt, P. and Frommnold, W. *Atlas of Anatomic Correlation in CT and MRI*, 84
Gibson, D. G. (Ed.). *British Medical Bulletin, Vol. 45, No. 4. Non-invasive Cardiac Imaging*, 996
Goldfinch, E. P. (Ed.). *Radiation Protection Theory and Practice. Proceedings of the 25th Anniversary Symposium for Radiological Protection*, 672
Goldstein, S. R. *Endovaginal Ultrasound*, 916
Gozzetti, G., Mazziotti, A., Bolondi, L. and Barbara, L. (Eds). *Intraoperative Ultrasonography in Hepato-Biliary and Pancreatic Surgery (a Practical Guide)*, 999
Hackeloer, B.-J., Duda, V. and Lauth, G. *Ultrasound Mammography. Methods, Results, Diagnostic Strategies*, 832
Haehnel, P. and Kleitz, C. *Mammography. Exercises in Radiological Diagnosis*, 589
Halperin, E. C., Kun, L. E., Constine, L. S. and Tarbell, N. J. *Pediatric Radiation Oncology*, 408
Han, M.-C. and Kim, C.-W. *Sectional Human Anatomy Correlated with CT and MRI, 2nd edn*, 744
Heintzen, P. H. and Bursch, J. H. (Eds). *Progress in Digital Angiocardiography*, 155
Heitzman, E. R. *Radiologic Correlations with Anatomy and Pathology*, 997
Hendricks, M. J. *Computed Tomography of the Pituitary Gland: an Anatomical and Pathological Study*, 503
Hobbins, J. C. and Benacerraf, B. R. (Eds). *Diagnosis and Therapy of Fetal Anomalies. Clinics in Diagnostic Ultrasound*, 590
Husband, J. E. S. (Ed.). *CT Review*, 744
IAEA Safety Series, No. 95. *Radiation Monitoring in the Mining and Milling of Radioactive Ores*, 739
IAEA Technical Reports Series, No. 295. *Measurement of Radionuclides in Food and Environment, a Guidebook*, 505
ICRU Report 43. *Determination of Dose Equivalents from External Radiation Sources, Part 2* 409
ICRU Report 44. *Tissue Substitutes in Radiation Dosimetry and Measurements*, 409
Institute of Radiation Hygiene and WHO. *Quality Assurance in Radiotherapy*, 671

INDEX TO SUBJECTS—continued

Jacobs, E. R. (Ed.). *Medical Imaging: a Concise Textbook*, 154
Jacobson, I. M. (Ed.). *Current Topics in Gastroenterology. ERCP Diagnostic and Therapeutic Applications*, 740
Kandarpa, K. *Handbook of Cardiovascular and Interventional Radiologic Procedures*, 917
Karzmark, C. J. and Morton, R. J. *A Primer on Theory and Operation of Linear Accelerators in Radiation Therapy*, 408
Keats, T. E. (Ed.). *Emergency Radiology, 2nd edn*, 233
Kelsey, C. A. *Essentials of Radiology Physics*, 504
Kox, W., Boultbee, J. and Donaldson, R. (Eds). *Imaging and Labelling Techniques in the Critically Ill*, 233
Kremkau, F. W. *Diagnostic Ultrasound. Principles, Instruments and Exercises, 3rd edn*, 410
Langland, O. E., Langlais, R. P., McDavid, W. D. and DelBalso, A. M. (Eds). *Panoramic Radiology, 2nd edn*, 589
Laramore, G. E. (Ed.). *Radiation Therapy of Head and Neck Cancer*, 408
Lerski, R. A. (Ed.). *Practical Ultrasound*, 85
Levine, M. S. *Radiology of the Esophagus*, 998
Loken, M. K. *Pulmonary Nuclear Medicine*, 156
Mahboubi, S. (Ed.) *Pediatric Bone Imaging — a Practical Approach*, 999
Manaster, B. J. with Bragg, D. G. and Osborn, A. G. (Eds). *Handbooks in Radiology: Skeletal Radiology*, 996
Mancini, G. B. (Ed.). *Clinical Application of Cardiac Digital Angiography*, 83
Meschan, I. *Roentgen Signs in Diagnostic Imaging, 2nd edn, Vol. 4. The Chest*, 87
Mok, D. and Kreel, L. *Essential Radiology in Head Injury: a Diagnostic Atlas of Skull Trauma*, 152
Morin, R. L. *Monte Carlo Simulation in the Radiological Sciences*, 157
Mould, R. F. *Introductory Medical Statistics, 2nd edn*, 157
Mullins, C. E. and Mayer, D. C. *Congenital Heart Disease. A Diagrammatic Atlas*, 233
Nias, A. H. W. *Clinical Radiobiology, 2nd edn*, 998
NRCP Report No. 96. Comparative Carcinogenicity of Ionizing Radiation and Chemicals, 157
NRCP Report No. 98. *Guidance on Radiation Received in Space Activities*, 671
NRCP Report No. 102. *Medical X-ray, Electron Beam and Gamma-ray Protection for Energies up to 50 MeV (Equipment Design, Performance and Use*, 672
Orrison, W. M. *Introduction to Neuroimaging*, 589
Peppler, W. W. and Alter, A. A. (Eds). *Proceedings of the Chest Imaging Conference 1987, Held at the University of Wisconsin-Madison, August 31–September 2, 1987*, 152
Peters, M. E., Boegeli, D. R. and Scanlan, K. A. *Handbook of Breast Imaging*, 1000
Pinson Neal, M., Tisando, J. and Cho, S.-R. (Eds). *Emergency Interventional Radiology*, 995
Pomeranz, S. J. *Craniospinal Magnetic Resonance Imaging*, 324
Pounder, R. E., Allison, M. C. and Dhillon, A. P. *A Colour Atlas of the Digestive System*, 504
Priestman, T. J. *Cancer Chemotherapy: an Introduction, 3rd edn*, 158
Rees, G. J. G. *Clinical Oncology*, 740
Resnick, D. *Bone and Joint Imaging*, 589
Rifkin, M. *Ultrasound of the Prostate*,156
Rubens, M. B. *Cardio-thoracic Imaging. Self Assessment in Radiology and Imaging, 7*, 995
Sellink, J. L. *X-ray Differential Diagnosis in Small Bowel Disease: a Practical Approach*, 590
Semple, J. and Gibb, D. *The Place of Panoramic Tomography in Dental Radiography — What Radiographers Should Know about Dentistry*, 83
Sharp, P. F., Gemmell, H. G. and Smith, F. W. (Eds). *Practical Nuclear Medicine*, 741
Sigel, B. (Ed.). *Operative Ultrasound, 2nd edn*, 153
Singleton, E. B., Wagner, M. L. and Dutton, R. V. *Radiological Atlas of Pulmonary Abnormalities in Children, 2nd edn*, 153
Slaga, T. J., Klein-Szanto, A. J. P., Bantwell, R. K., Stevenson, D. E., Spitzer, H. L. and D'Motto, R. *Skin Carcinogenesis. Mechanisms and Human Relevance Progress in Clinical and Biological Research, Vol. 298*, 504
Smith, P. H. (Ed.). *Combination Therapy in Urological Malignancy*, 998
Sperber, M. and Kaiser, M. C. *Magnetic Resonance Imaging of the Thorax*, 743
Squire, L. and Novelline, R. A. *Fundamentals of Radiology, 4th edn*, 232
Stansbie, J. M. and Phelps, P. D. *Middle Ear: Otoscopy and Radiology (Audiovisual Set)*, 505
Stoll, B. A. (Ed.). *Cost Versus Benefit in Cancer Care*, 158
Straub, W. H. *Manual of Diagnostic Imaging: a Clinician's Guide to Clinical Problem Solving, 2nd edn*, 996
Suslick, K. H. (Ed.). *Ultrasound: its Chemical, Physical and Biological effects*, 155
Trevert, E. *Something about X-rays for Everybody*, 671
Turner, J. E., Bogard, J. S., Hunt, J. B. and Rhea, T. A. *Problems and Solutions in Radiation Protection*, 157
van Nostrand, D. and Baum, S. (Eds). *Atlas of Nuclear Medicine*, 84
von Schulthess, G. K. *Morphology and Function in MRI — Cardiovascular and Renal Systems*, 743
Wasserman, A. G. and Ross, A. M. *Cardiac Application of Digital Angiography*, 916
Weaver, D. D. *Catalog of Prenatally Diagnosed Conditions*, 997
Wehrli, F. W., Shaw, D. and Kneeland, J. B. *Biomedical Magnetic Resonance Imaging: Principles, Methodology and Applications*, 153
Weissleder, D. and Stark, O.*MRI Atlas of the Abdomen*, 83
White, D. R. and Cull, P. *Radiation Safety for Domestic Staff. (1) X-ray and Radiotherapy Departments, Wards and Theatres (Audiovisual Set)*, 505
White, G. H. and White, R. H. *Angioscopy: Vascular and Coronary Complications*, 154
Yoder, I. C. *Hysterosalpingography and Pelvic Ultrasound: Imaging in Infertility and Gynecology*, 832
Zeitler, E. and Seyferth, W. (Eds). *Pros and Cons in PTA and Auxiliary Methods*, 999

Instructions to authors, 89